



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,472	02/23/2005	Michael Overdick	DE 020155	3285
24737 7590 09/13/2007 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER SUNG, CHRISTINE	
			ART UNIT 2884	PAPER NUMBER
			MAIL DATE 09/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/525,472

Applicant(s)

OVERDICK ET AL.

Examiner

Christine Sung

Art Unit

2884

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Response to Amendment

1. The amendment filed on 7/2/07 has been accepted and entered.

Information Disclosure Statement

2. The information disclosure statement filed 9/12/05 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 13 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose a non-planar surface of the sensitive areas.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 discloses that the sensitive areas mesh with one another by interleaving. The specification discloses that interleaving is defined as *incoherent* meshing (see page 3, lines 10-12 of the specification).

Claim 2, which depends upon claim 2, discloses that the sensitive areas mesh with one another by dentation, which is defined by the specification as *coherent* meshing (see page 3, lines 10-12 of the specification). Therefore, claim 2 fails to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3 and 5-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Charpentier (US Patent 5,291,018 A).

Regarding claims 1 and 11, Charpentier discloses a detector arrangement (figure 5) for the conversion of electromagnetic radiation into electrical signals (element 20), which arrangement includes sensitive areas (element 20), each of which corresponds to a respective electrical signal (element 20 = a pixel element), it being arranged that at least two of the sensitive areas mesh with one another (see figures 5 and 8) by interleaving (see figures 5 and 8).

Regarding claim 2, Charpentier discloses that the meshing of the sensitive areas with one another is achieved by dentation (see figure 5 and 8).

Art Unit: 2884

Regarding claim 3, Charpentier discloses that the sampling properties of the sensitive areas are defined by a respective associated sensitive surface and that meshing is realized by way of the sensitive surfaces (see figures 5 and 8).

Regarding claims 5 and 10, Charpentier discloses that the sensitive areas are all of the same size (see figures 5 and 8).

Regarding claim 6, Charpentier discloses that the shape of the sensitive areas varies (see figures 5 and 8).

Regarding claim 7, Charpentier discloses the limitation set forth in claim 1 (see above). Charpentier does not explicitly specify an x-ray imager, however, the limitation is merely an intended use of the detector claimed in claim 1, and thus has not been given any patentable weight (See MPEP Section 2111.02).

Regarding claims 8 and 16, Charpentier discloses a method for the conversion of electromagnetic radiation into electrical signals, which method comprises:

emission of electromagnetic radiation by a radiation source (column 3, lines 20-23),

detection of the electromagnetic radiation by means of a detector arrangement which includes sensitive areas (Figure 5, elements 20),

conversion of the electromagnetic radiation into electrical signals (column 3, lines 24-43, discloses detection of radiation and conversion to signal),

where each time one of the sensitive areas corresponds unambiguously to a respective electrical signal (element 20 is a separate pixel element), and at least two of the sensitive areas mesh with one another by interleaving (see figures 5 and 8), and propagation of the electrical signals.

Art Unit: 2884

Regarding claims 12 and 17, Charpentier discloses that the sensitive areas are symmetrical (see figures 5 and 8).

Regarding claims 13 and 18, Charpentier discloses that the surface of the sensitive areas is non-planar (the detector is 3-Dimensional, thus it is non-planar).

Regarding claim 14, Charpentier discloses that the at least two sensitive areas that mesh with one another by interleaving are connected to each other along a non-surface portion of the detector arrangement (See figures 5 and 8, each sensitive area is connected to an adjacent sensitive area along the side of the sensitive area, which is the non-surface portion of the detector).

Regarding claim 15, Charpentier discloses that the shape of the sensitive regions is the same (see figures 5 and 8).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

Art Unit: 2884

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Charpentier (US Patent 5,291,018 A).

Regarding claim 4, Charpentier discloses sensitive areas (element 20), but does not explicitly disclose that such areas are formed by photodiodes or electrodes. However, electrodes/photodiodes are well known elements that are conventional to thermal detectors as disclosed by Charpentier. Such elements are necessary and inherent for reading out/detecting radiation. Thus it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have included photodiode/electrodes with the invention as disclosed by Charpentier in order to properly read out/detect radiation impinging on the sensitive areas of the detector.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Charpentier (US Patent 5,291,018 A) in view of Marshall (US Patent 6,414,294 B1).

Regarding claim 7, Charpentier discloses the limitations set forth in claim 1, but does not disclose that the detector is included in an x-ray system. However, Marshall discloses an array imager (see figure 8, element 528) and further discloses the interchangeability of detectors between x-ray and infrared imagers (see column 15, lines 58-67). One of ordinary skill in the art would be motivated to adapt the detector disclosed by Charpentier for x-ray applications in order to reduce the impact of dead zones in an array of detectors in order to minimize aliasing.

Response to Arguments

13. Applicant's arguments filed July 2, 2007 have been fully considered but they are not persuasive.

Applicant argues that the Charpentier reference fails to disclose or suggest two sensitive areas that mesh with one another by interleaving. The examiner respectfully disagrees. The specification defines interleaving as incoherent meshing, which is clearly illustrated in figure 8, where the sensitive regions are interleaved with one another.

The use of the term "interleaving" does not require a particular interleaving scheme (i.e. there are no specifics on the number of sawteeth or other mesh forms per sensitive region), thus the interleaving mesh is clearly disclosed by Charpentier in Figure 8. Further, Charpentier uses the interleaving/mesh form for the sensitive regions to correct for the same problem identified in the instant application; to correct for aliasing errors.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2884

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Sung whose telephone number is 571-272-2448. The examiner can normally be reached on Monday- Friday 9-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christine Sung
Examiner
Art Unit 2884

CS



DAVID PORTA
SUPERVISOR/CHIEF EXAMINER
TECHNOLOGY CENTER 2800